

This listing of claims replaces all prior versions, and listings of claims in the instant application:

Listing of Claims:

1. (Currently Amended) A method for application program obfuscation, comprising:

receiving, on an application program provider, a reference to a decryption algorithm and a first cryptographic key;

creating, on said application program provider, a key decryption program comprising an instruction stream, said key decryption program configured to perform said decryption algorithm for said first cryptographic key;

applying, on said application program provider, a cryptographic process to a second cryptographic key together with said first cryptographic key to create an encrypted second cryptographic key wherein said cryptographic process receives said first and second cryptographic keys as inputs;

scrambling, on said application program provider, said encrypted second cryptographic key into said instruction stream using a code obfuscation method indicated by an obfuscation descriptor, said scrambling creating an obfuscated key decryption program, said obfuscation descriptor based at least in part on a target ID wherein said target ID specifies a user device for executing an obfuscated application program; and

sending, from said application program provider, said obfuscated key decryption program.

2. (Original) The method of claim 1, further comprising sending digital content protected by said second cryptographic key.

3. (Original) The method of claim 2, further comprising sending said obfuscated key decryption program together with said digital content.

4. (Original) The method of claim 1 wherein said target ID comprises a VM ID.

5. (Withdrawn) A method for application program obfuscation, comprising:

receiving an obfuscated key decryption program comprising an instruction stream configured to perform a decryption algorithm for a first cryptographic key, said obfuscated decryption program having an encrypted second cryptographic key scrambled in said instruction stream, said second cryptographic key encrypted with said first cryptographic key;

executing said program to decrypt said second cryptographic key; and

decrypting digital content using said second cryptographic key.

6. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for application program obfuscation, the method comprising:

receiving, on an application program provider, a reference to a decryption algorithm and a first cryptographic key;

creating, on said application program provider, a key decryption program comprising an instruction stream, said key decryption program configured to perform said decryption algorithm for said first cryptographic key;

applying, on said application program provider, a cryptographic process to a second cryptographic key
~~together with said first cryptographic key to create~~
an encrypted second cryptographic key wherein said

cryptographic process receives said first and second cryptographic keys as inputs;

scrambling, on said application program provider, said encrypted second cryptographic key into said instruction stream using a code obfuscation method indicated by an obfuscation descriptor, said scrambling creating an obfuscated key decryption program, said obfuscation descriptor based at least in part on a target ID wherein said target ID specifies a user device for executing an obfuscated application program; and

sending, from said application program provider, said obfuscated key decryption program.

7. (Original) The program storage device of claim 6, said method further comprising sending digital content protected by said second cryptographic key.

8. (Original) The program storage device of claim 7, said method further comprising sending said obfuscated key decryption program together with said digital content.

9. (Original) The program storage device of claim 6 wherein said target ID comprises a VM ID.

10. (Withdrawn) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for application program obfuscation, the method comprising:

receiving an obfuscated key decryption program comprising an instruction stream configured to perform a decryption algorithm for a first cryptographic key, said obfuscated decryption program having an encrypted second cryptographic key scrambled in said instruction stream, said second cryptographic key encrypted with said first cryptographic key;

executing said program to decrypt said second cryptographic key; and

decrypting digital content using said second cryptographic key.

11. (Currently Amended) An apparatus for application program obfuscation, comprising:

a processor; and

a memory, coupled to said processor, having stored therein computer readable instructions wherein executing said computer readable instructions on said processor provides:

means for receiving, on an application program provider, a reference to a decryption algorithm and a first cryptographic key;

means for creating, on said said apparatus, a key decryption program comprising an instruction stream, said key decryption program configured to perform said decryption algorithm for said first cryptographic key;

means for applying, on said apparatus, a cryptographic process to a second cryptographic key ~~together with said first cryptographic key~~ to create an encrypted second cryptographic key wherein said cryptographic process receives said first and second cryptographic keys as inputs;

means for scrambling, on said apparatus, said encrypted second cryptographic key into said instruction stream using a code obfuscation method indicated by an obfuscation descriptor, said scrambling creating an obfuscated key decryption program, said obfuscation descriptor based at least in part on a target ID wherein said target ID specifies a user device for executing an obfuscated application program; and

means for sending, from said apparatus, said obfuscated key decryption program.

12. (Original) The apparatus of claim 11, further comprising means for sending digital content protected by said second cryptographic key.

13. (Original) The apparatus of claim 12, further comprising means for sending said obfuscated key decryption program together with said digital content.

14. (Original) The apparatus of claim 11 wherein said target ID comprises a VM ID.

15. (Withdrawn) An apparatus for application program obfuscation, comprising:

means for receiving an obfuscated key decryption program comprising an instruction stream configured to perform a decryption algorithm for a first cryptographic key, said obfuscated decryption program having an encrypted second cryptographic key scrambled in said instruction stream, said second cryptographic key encrypted with said first cryptographic key;

means for executing said program to decrypt said second cryptographic key; and

means for decrypting digital content using said second cryptographic key.

16. (Currently Amended) An apparatus for application program obfuscation, comprising an application program provider comprising:

a processor; and

a memory, coupled to said processor, having stored therein computer readable instructions wherein executing said computer readable instructions on said application program provider is configured to:

receive, on an application program provider,
a reference to a decryption algorithm and a first
cryptographic key;

create, on said application program provider,
a key decryption program comprising an instruction
stream, said key decryption program configured to
perform said decryption algorithm for said first
cryptographic key;

apply, on said application program provider,
a cryptographic process to a second cryptographic
key ~~together with said first cryptographic key~~ to
create an encrypted second cryptographic key
wherein said cryptographic process receives said
first and second cryptographic keys as inputs;

scramble, on said application program
provider, said encrypted second cryptographic key
into said instruction stream using a code
obfuscation method indicated by an obfuscation
descriptor, said scrambling creating an obfuscated
key decryption program, said obfuscation
descriptor based at least in part on a target ID
wherein said target ID specifies a user device for
executing an obfuscated application program; and

send, from said application program provider,
said obfuscated key decryption program.

17. (Original) The apparatus of claim 16, said
application program provider further configured to send
digital content protected by said second cryptographic key.

18. (Original) The apparatus of claim 17, said
application program provider further configured to send said
obfuscated key decryption program together with said digital
content.

19. (Original) The apparatus of claim 16 wherein said
target ID comprises a VM ID.

20. (Withdrawn) An apparatus for application program obfuscation, comprising a target device configured to:

receive an obfuscated key decryption program comprising an instruction stream configured to perform a decryption algorithm for a first cryptographic key, said obfuscated decryption program having an encrypted second cryptographic key scrambled in said instruction stream, said second cryptographic key encrypted with said first cryptographic key;

execute said program to decrypt said second cryptographic key; and

decrypt digital content using said second cryptographic key.